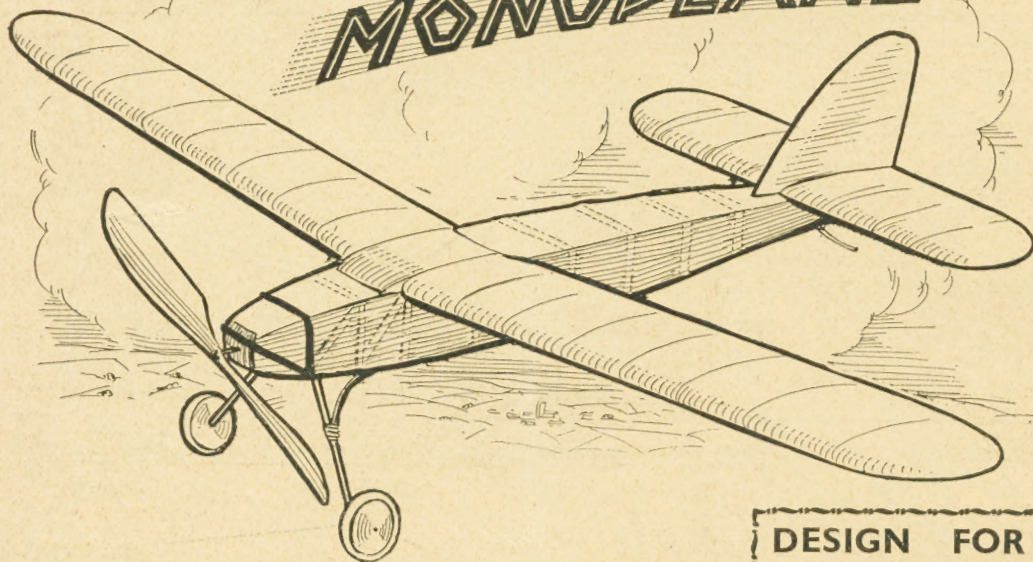


Hobbies

WEEKLY

A FLYING MODEL MONOPLANE



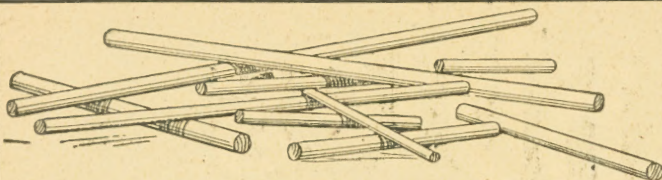
DESIGN FOR A
LADY'S SEWING
COMPANION

June 19th. 1937

2^D

Vol. 84. No. 2174

THE FRETWORKER'S AND
HOME CRAFTSMAN'S JOURNAL



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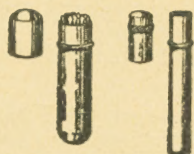


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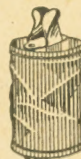
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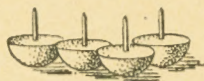


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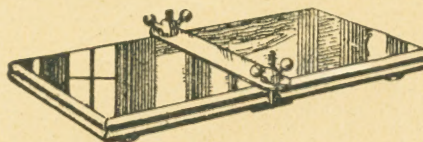
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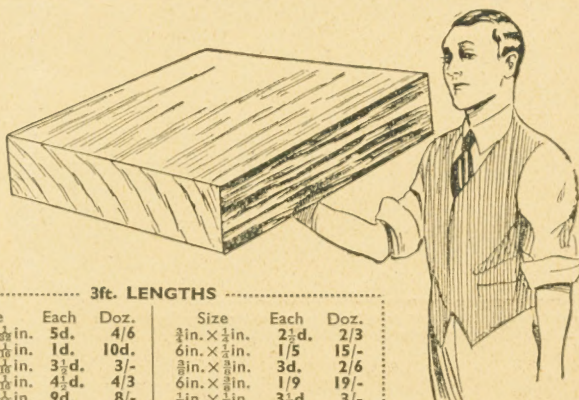
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This amazing timber is now obtainable from Hobbies
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and is the wood for the model aeroplane builder.
Useful too for making model boat hulls, toys and 101
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You can buy it from any Hobbies Branch or
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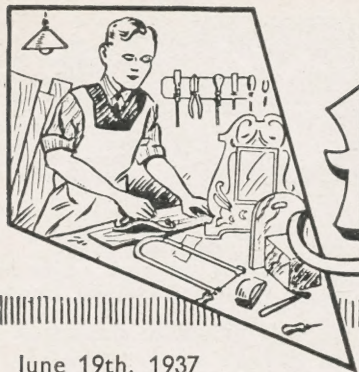
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$\frac{1}{2}$ in. x $\frac{1}{2}$ in.	2d.	1/8	1in. x 1in.	7½d.	6/9
6in. x $\frac{1}{2}$ in.	1/3	13/6	2in. x 1in.	1/2	12/6

NOTE.—There is a mini-
mum charge of 6d. to
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ing. Please include this
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post.



Hobbies

WEEKLY



June 19th. 1937

Vol. 84. No. 2174

THIS week's outstanding effort is our "Wren" Flying Model Plane. It has been designed by an expert and as proof of its capabilities, I may tell you it won a place in a competition in the "Expert" Class recently at Southport and actually registered the best flight—66.3 seconds. Which, as the maker remarks, is pretty good going for a bus of this type.

The parts have purposely been kept straightforward and balsa and the usual "bits and pieces" are well within range of all. The cost of the materials, indeed, should not be more than about 3/6, including the finished prop., and if you have no local store to supply you I can give the addresses of several reliable sources if you write and ask me. Moreover by supplying a complete large, full size blue-print it is simple to lay out accurate parts.

ANOTHER popular item, too, will be the Maze Competition on page 283. It contains outlines of a number of summer sports requisites and will provide a fascinating half hour sorting them out. There's a Gem Fretmachine for the winner, and other prizes for consolations. Why not make up *your* mind to have one?

DON'T forget, too, to let me have those little items suitable for the Fretwork Notes Page.

As mentioned earlier, I shall give a prize of 5/- for the best and 2/6 for the next best paragraph sent in. They need not be long—not more than 200 words, and should be about how to do and what to do rather than notes on actual things to make. Send along a few notes only, if you wish and I will shape them up for you. Come along please, its *your* page.

AMONG the many photographs received of the Coronation Coach is an outstanding one made by the fellows in the occupational centre of Shortes

Hall Hospital, Huddersfield. The whole model was put in a glass case and decorated standards and bunting with other decoration hung round in very realistic fashion. And to add the finishing touch—miniature figures of the King and Queen were made for the coach! Another, made by Harry Hughes, aged 15½, was completed in blue and gold, with a pink lining, during the spare time of three weeks.

A GREAT many readers have been good enough to display a card with their work saying it was made from a Hobbies Design and I am very grateful for it. I have had prepared a special small attractive card containing the words "Made from a Hobbies Design" in colours and if you are showing your work anywhere I shall be pleased to send you one. Just write and ask me for the Fretwork Display Card and it shall come along at once. Thank you so much!

HAVE you seen the use to which odd pieces of coloured silver paper can be put? There are undoubted possibilities for an artistic and simple hobby if you have the necessary patience and, of course, the paper. Collection of the latter will, at least form a good excuse to buy more chocolate! With the collection you can make really handsome pictures, and I know of one young lady who has made a striking fireplace screen panel as well. She has used the popular Dutch Boy and Girl Design of No. 8G. for some of the

pictures, painting black all the frets, which would form the waste wood in fretwork.

The process appears quite simple. The design is drawn in outline in black lacquer and the colour tinsel paper pasted in reverse up to this thick line. A card is put over the completed paper to form a back and passe-partout edging and hangers are added to complete the panel.

The Editor

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Next Week's Design—Clock

Correspondence should be addressed to: The Editor, Hobbies Weekly, Dereham, Norfolk, and a stamp enclosed with the Reply Coupon from Cover iii if a reply is required. Particulars of Subscription rates, Publishing, Advertising, etc. are on cover iii.

Send your own simple tips to The Editor, *Hobbies Weekly*, Dereham, Norfolk. Keep them short and add rough pencil sketches if possible.

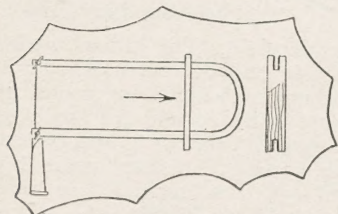
HINTS AND TIPS



For original Tips published the sender will receive a *Hobbies Self-filling Fountain Pen*. We cannot acknowledge or print all tips sent.

Tension Device

HERE is a suggestion for those who use a fretsaw without a tension lever. Cut a piece of $\frac{3}{8}$ in. wood to the shape shown, so it



will fit on the frame at the end of the fretsaw-blade. Put in your blade with *no* tension on it, then pull the piece of wood backwards, and this will give the required tension.—(I.D.)

Cleaning Pewter

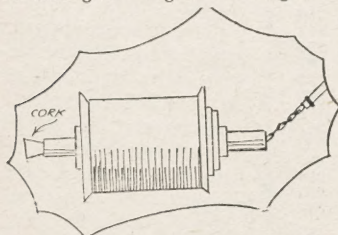
IN cleaning pewter the greatest care should be taken not to scratch the surface. The article should be washed in warm soapy water and the inaccessible corners scrubbed with a small soft brush. Dry thoroughly and polish with a soft rag.—(J.B.)

Boot Polishing Tip

NEXT time you buy a tin of boot polish just add one or two drops of vinegar. You will be surprised at the difference in the shine.—(L.A.)

3-Speed Repair

HERE is a useful tip to cyclists. If the 3-speed wire breaks unexpectedly and resulting in it remaining in "high." A twig or



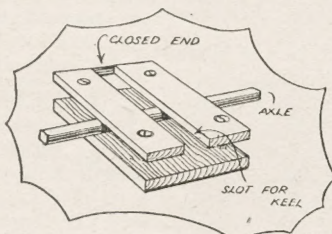
cork pushed in the other end keeps the gear in "medium" or "low" long enough to get you home safely where you can have it repaired.—(D.W.)

For Models

THE reverse side of linoleum makes a good representation of a wattle fence in models of cottages, farms, etc., if lightly blacked over, or touched up with Indian Ink. Left as it is, it makes attractive walls for models of houses and dolls' houses.—(J.J.D.)

Canoe Trolley

A USEFUL trolley for carrying a canoe short distances can be easily made from a pair of wheels and a few pieces of wood. The main advantage of it is that it can be carried in the canoe while on the water. The two wheels are about 9 inches in diameter and the axle 12 inches in length.



One end of the outer keel fits into a slot, while the other end of the canoe is carried under the arm. The axle is square and two pieces of wood 4 ins. by 1½ ins. by ¾ in. are held in position by a board on the opposite side of the axle, and four screws, without drilling holes in the axle.—(R.H.)

Use for Coping Saw

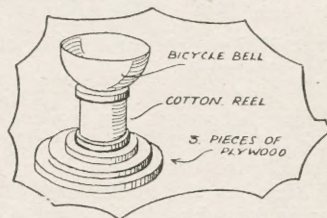
IF you have a piece of thick wood through which a fretsaw will not cut, then try a coping saw cut to the length of a fretsaw, fitted to the handframe and used as a fretsaw.—(P.T.)

Model Galleons

THE simplest method to make the rigging of a model ship is to use thin wire off an old wireless coil, and press studs for the pulleys. For the sails you can use parchment paper either varnished or french polished to stiffen and brighten.—(L.A.)

An Ash Tray

I HAVE just made up an Ash Tray from an old bell (bicycle), cotton reel, and 3 odd bits of ½ in. ply., with about 4 ins. of dowel.



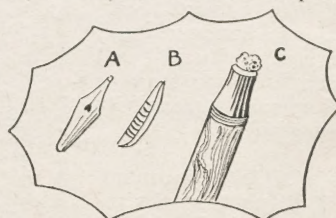
Put the dowel through the cotton reel and into the 3 pieces of ply which are cut in circles, then a roundheaded screw is driven through the reel into the dowel. Just a touch of varnish stain and there you have a very cheap Ash Tray that will not fall over.—(J.B.)

Testing a Transformer

A N easy method of testing a transformer is to connect a pair of wireless headphones in series with a high tension battery plugged up to about 10-volts. If a distinct click is heard on touching one of the terminals with the free end of a connecting wire, it can be taken that the transformer is in order. On the other hand, a burnt-out transformer is indicated when no sound is forthcoming.—(R.S.)

Mount Damper

A CHEAP and serviceable mount damper may be made from an old fountain pen. Remove the pen nib and composition feeder (A and B) and insert a small piece



of sponge at C. Fill the reservoir with water in the same way as a fountain pen and you have a simple damper for moistening envelope flaps, the back of stamps, etc.—(B.M.)

HOBBIES FLYING MODEL MONOPLANE "THE WREN"

HERE is a model that is simple enough to build and fly for the veriest novice, and yet with performance and appearance to appeal to those who have already had a certain amount of experience in aeromodelling.

Those of you who have read the previous articles on model aircraft will recognise in this Model many features that were mentioned, the general design of which is to standards that are acknowledged by the experts in the hobby.

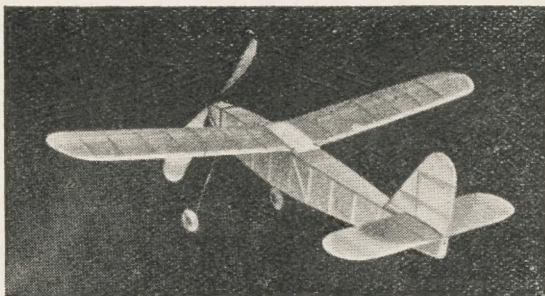
This is not one of those "cut to the bone," slab-sided affairs that are usually regarded as the type for beginners, but something that anyone with a bit of care and patience can make a good job of and get some interesting and instructive flying from.

Under test the model proved stable, a good climber, and a consistent performer, with durations—under rather poor conditions—of regularly 35-40 seconds, with a best flight of 47 seconds. This was accomplished with a brand new motor, and when the conditions were not conducive to high durations. It is the opinion of the designer that on a good day 60 second flights are quite within the possibilities of the machine.

Helpful Constructional Articles

Many constructional details used in this particular model have been dealt with in previous articles dealing with general building matters, and it would be as well for anyone contemplating building the "Wren" to have these articles handy for reference. These appeared in Hobbies Nos. 2144, 2147, 2150, 2154 and 2163, and contain much information on model aircraft practice in general, and many constructional hints that are invaluable to those building this model. They are obtainable for 2d. each plus return postage.

The logical starting point in building a model is the fuselage, this being the base for all other fittings, etc., so, taking each portion of the model separately, we will commence with this. Full size



details of the main parts are given on the blue print provided. A complete list of material needed is also given.

Fuselage

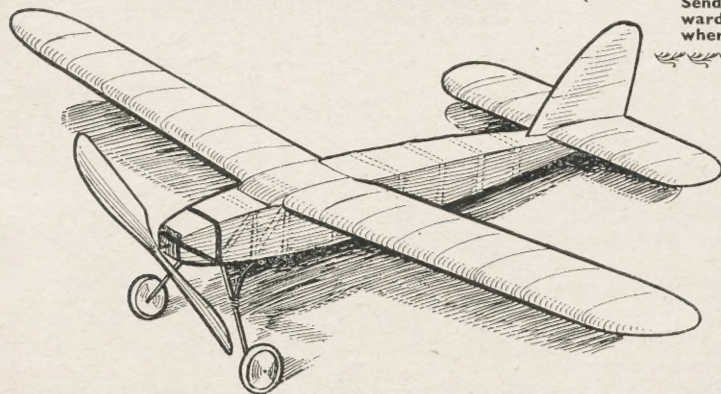
Pin the drawing to a flat board—preferably of soft wood, to enable the pins to be driven easily—and cover the whole with a sheet of waxed paper. This prevents the work sticking to the drawing, and keeps the sheet clean, as the cellulose glue will not adhere to the waxed surface.

Take a length of 3/32in. square balsa, and cut two longerons, leaving a little over at each end. Pin to board exactly over the lines, placing the pins as shown in the article dealing with fuselage construction. Cut the upright and cross-bracing members, making a nice easy fit.

Do not make the fit too tight, or the tendency will be for the outline to be distorted. Give the ends of all pieces a thin coat of glue and allow to dry. This prevents the suction that is very pronounced in such an open grained wood as balsa, and allows the final gluing to remain at full strength.

Full size Blue Print

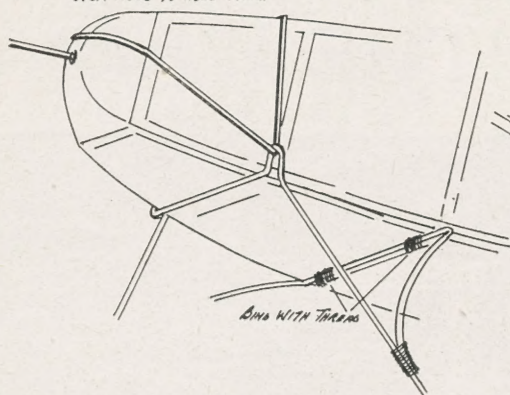
We have prepared a large Blue Print with full size patterns for setting out the parts. Send 10d. to the Editor and it will be forwarded post free by return. Particulars where to obtain the materials also supplied.



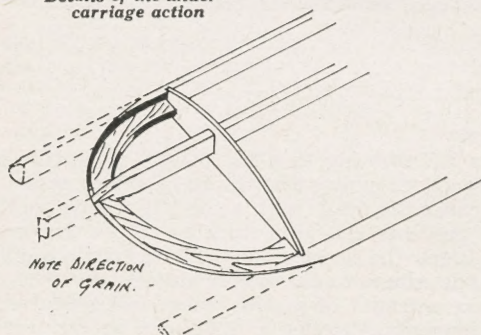
Place the uprights, etc. in their respective positions, using enough but not too much glue. Do not overdo the quantity of glue used, as too much only adds weight, and is of no advantage. Fill in the front bay with a piece of 1/8in. sheet as shown, also the piece of 1/4in. by 1/2in. at the rear of the fuselage that receives the bamboo peg holding the rubber.

When thoroughly set—in three to four hours—carefully withdraw

RUBBER BAND CAN BE SLIPPED
OVER NOSE TO HOLD FIRM.

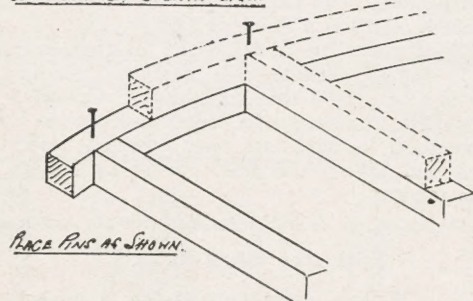


Details of the under-
carriage action

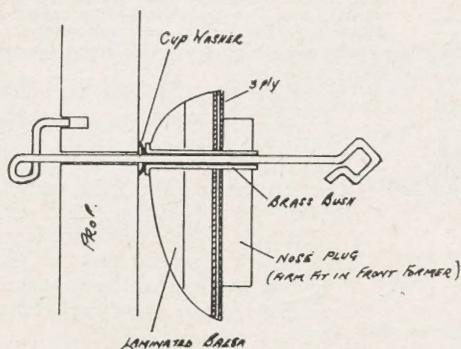


How the tips are assembled

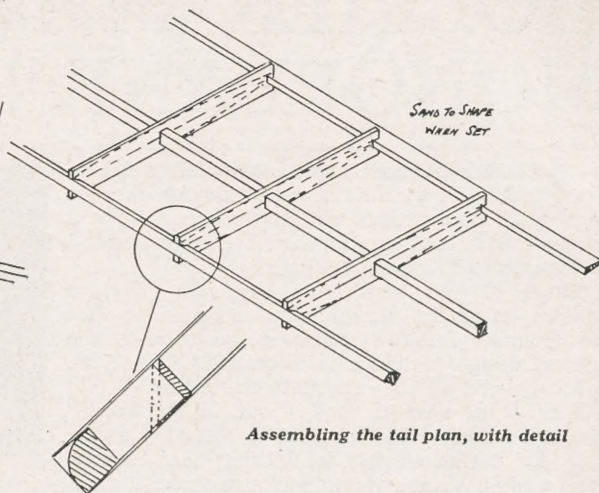
BUILD 2ND SIDE DIRECTLY ON 1ST.



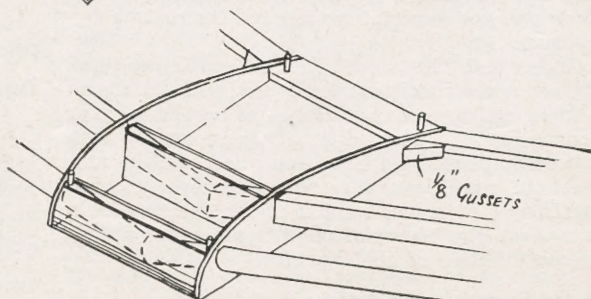
Laying out the patterns and parts



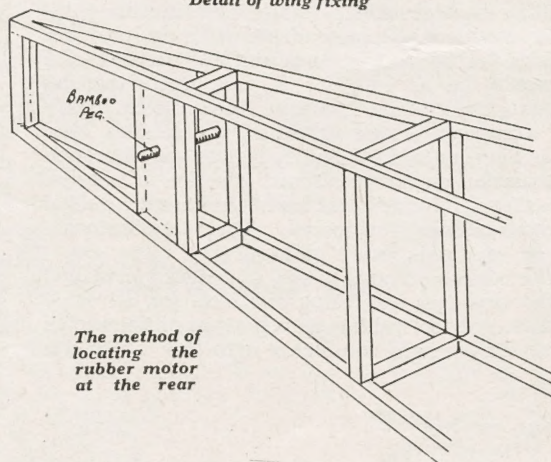
Cross section of the nose assembly



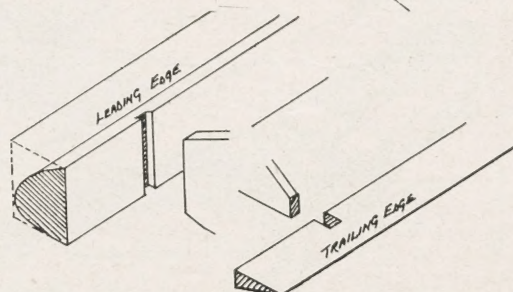
Assembling the tail plan, with detail



Detail of wing fixing



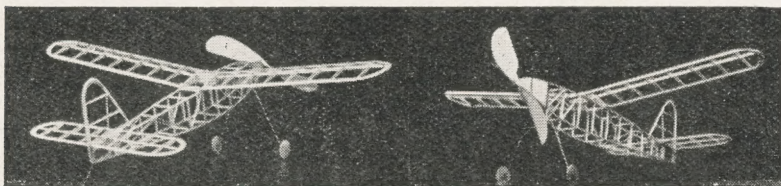
The method of
locating
the
rubber motor
at the rear



How the wings are notched into leading and trailing edge

the pins and proceed to build another side directly over the first. In this way we get two sides exactly alike.

It will be found that the sides adhere to each other, but this does not matter. When this second side is set, clean the whole with very fine glasspaper, trimming the overhanging ends of the longerons square with the uprights. Now, with a thin razor blade, separate the two sides, lightly smoothing the inner faces.



Front and Tail photographs of the framework

Glue the rear of the pieces, and clip with a paper slip as shown in Fig. 3 of the earlier constructional article. Cut a template from either three-ply or thin cardboard as shown, $2\frac{1}{4}$ ins. by $1\frac{1}{8}$ ins. making certain the angles are dead square. Be very careful with this, or the fuselage will not finish square. Slide over the two sides, and insert the cross braces.

The Nose

Another template can be cut to the nose dimensions. This is not essential, but can be a great help. Insert all the cross braces before removing the templates, which should not be done until the whole has had a chance to thoroughly set. A good plan is to leave such a job overnight, thus obviating any tendency to meddle before the glue has properly hardened. Fill the front bay with sheet as before.

Cut a former from Imm. three-ply to the dimension shown, and glue to the front of the fuselage. Build a nose-piece as shown from $\frac{1}{8}$ in. sheet and three-ply, making the back piece that acts as a plug in the nose former a firm, sliding fit. Do not let this be a sloppy fit, or the nose will drop out in flight when the tension has gone from the rubber.

Make a tail-skid from a piece of thin wire, and glue in place as shown in detail.

Undercarriage

Using 18 gauge piano wire, bend the two sections that comprise the undercarriage. This wire will be found rather hard to manipulate for those who have had no previous experience, and a strong pair of pliers are needed, but with a little care and a strong wrist a good job should be made. Be careful not to make wrong bends, as it is difficult to take any kinks out.

Bind the sections together with fine copper wire (a piece taken from some electric flex is ideal for the job) and solder. Make a good joint, and be sure the iron, etc. is clean or you will find it troublesome.

After fitting the wheels, a couple of turns of the copper wire, and a touch of the soldering iron

will make quite a good "hub" and prevent the wheels from coming adrift. Cut off any surplus axle length.

Bind the rear wire to the fuselage cross-piece with thread, and well glue the joint on completion. The front portion is held in place by a rubber band as shown, and acts as a shock absorber, at the same time giving the necessary amount of "backward swing" as shown in undercarriage article.

Nose-piece

Before shaping the nose-block, drill and insert a brass bush as shown. These bushes can be obtained, and should have a bore suitable for the 18 gauge shaft. Now shape the block, the best way of doing this being to have the plug in the front of the fuselage, and shape off to the line of the nose former. The bush being in place will prevent the finished nose being lop-sided.

Bend the prop-shaft from 18 gauge wire, inserting through the bush and propeller hub before bending the front loop. Do not forget to thread a steel cup-washer between the nose and prop, this acting as a bearing.

For Winding

A small hole is drilled in the hub of the propeller to take the bent-over end of the shaft, allowing the loop to stand out about $\frac{1}{8}$ in. from the face. This will be found very handy for winding the rubber motor, as a winder hook can be slipped into

LIST OF MATERIALS

MEDIUM BALSA.

Longerons, cross bracings and Tail-plane spar	5—3ft. by 3/32in. by 3/32in.
Tail and Fin leading edge	1—18ins. by $\frac{1}{8}$ in. by $\frac{1}{8}$ in.
Wing leading edge	1—2ft. by $\frac{1}{8}$ in. by $\frac{1}{8}$ in.
Wing spar	1—2ft. by $\frac{1}{8}$ in. by $\frac{1}{8}$ in.
Trailing edge wing, tail and fin	1—3ft. by 3/32in. by $\frac{1}{8}$ in.
Cross bracings	1—2ft. by 1/16in. by 1/16in.
Ribs, etc.	1—2ft. by 3ins. by 1/32in.
Wing tips, etc.	1—6ins. by 3ins. by $\frac{1}{8}$ in.
Nose former and nose-piece	1—4ins. by 2ins. 1mm. three-ply.
Rear rubber peg, wing pegs	Bamboo.
Undercarriage and shaft	1—3ft. 18 gauge piano wire.
Wheels	1 pair 1 $\frac{1}{2}$ in. hardwood.
Nose	1 brass bush.
Rubber	5 yds. $\frac{1}{8}$ in. by 1/30in.
Covering	1 sheet jap tissue.
Propeller	9in. standard.
Sundries	Tube cellulose glue, dope, rubber bands.

the loop, and the rubber stretched whilst winding, thereby adding to the efficiency of the motor.

Slip a piece of cycle-valve tubing over the rear hook, as this will save the wire from cutting the rubber, and will help prevent the rubber from climbing off the hook. An occasional spot of oil on the shaft will ensure easy running.

(To be Continued)



G.W.R. News

THE general utility small-wheeled 4-6-0 locos, incorporating the remains of many scrapped G.W. 2-6-0's, are now out of Swindon Works up to No. 6829, having started with 6800. They are definitely to be known as the "Grange" class, as the rumour that some of the engines were to be named after notable Manors has turned out to be—well, just another rumour!

It isn't often that a "Castle" gets renamed, but just lately No. 4037 "Queen Philippa" has been re-christened "The South Wales Borderers," the Colonel of the regiment officiating at the ceremony.

Next month we are going to talk about some queer current workings of G.W. locos over the L.N.E.R. to Nottingham, with an up-to-the-minute chat about the inside of Swindon Works, which we are just off to visit!

Windows from Films

ACOST-FREE way of providing "glass" for windows of miniature buildings is to immerse an old photographic film, or unwanted old bits of film, in warm water, and so remove the gelatine from one side and the emulsion from the other; then cut out to required size. Unwanted "dud" negatives, of course, do equally well.

"W.G." Gets Busy!

LAST season, happy holiday-makers enjoyed the cheerful amenities of no less than 323 houses on wheels, dotted about Britain's beauty spots. This year rail camping coaches may be even more popular. Our photograph shows a remarkable wooden model, about 7ft. long, designed to advertise the rail camping holiday. It was all made and set up on the platform at Burton Point, Cheshire, by a single L.N.E.R. porter of the name of W.G. Grace. He's got all the energetic enterprise of the "G.O.M." of cricket—though he claims no relationship!

Look Out for July 5th!

THE Fifth day of July, 1937, will be remembered as a red letter day in the annals of British railroading. On this momentous Monday, the occasion of the introduction of the full summer programme of passenger services, two brilliantly exciting express trains are to start running.

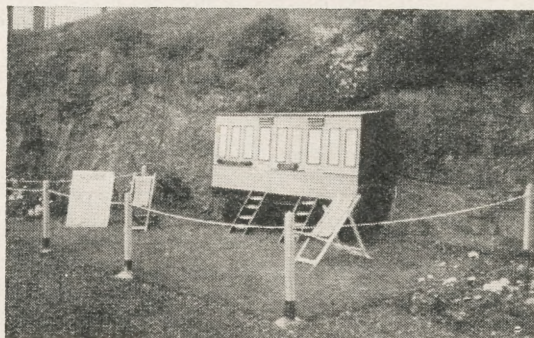
It is not yet known what the Euston-Glasgow flier, whose advent we promised in our April notes, will be called. The three new nine-coach train sets may not themselves be streamlined, but we all know that the five new L.M.S. Pacifics

will, and everyone is eagerly awaiting the arrival of the first engine out of Crewe Works as press time comes upon us! The names of the five locos are now available: 6220 "Coronation," 6221 "Queen Elizabeth," 6222 "Queen Mary," 6223 "Princess Alice," 6224 "Princess Alexandra."

The L.N.E.R.'s tribute to the 1937 Coronation is going to be more lavish. Their nine-coach train of July 5th is itself to be named "Coronation," while the five streamlined Pacifics destined to operate the service will take the titles of constituent parts of the British Empire. Numbers of these locos are not yet available.

This London-Edinburgh "Coronation" train, of which two sets will be built, is to have the distinction of an amazing patriotic colour scheme. Different shades of blue, partly Royal Blue, will form the chief colour. But the locomotive wheels will probably be bright red, lining-out effected in white! The streamlining of the whole train will be similar to that of the "Silver Jubilee."

The "Coronation" will lick up the 392½ miles between King's Cross and the Scottish capital in precisely 6 hours—about 1½ hrs. quicker than



Display model of a rail camping coach

the present best time! The L.M.S. train, running over a more hilly and slightly longer course, will make Glasgow in 6hrs. 30 mins. With schedules, loads, and distances so closely matched, these two new fliers are sure to kindle the sparks of keen rivalry along our east and west coasts this summer. L.M.S. drivers are known to be very keen to try out their new streamlined Pacifics. They have been humiliated by the exploits of the L.N.E.R. streamliners for long enough!

By the way, one or two of the latest L.N.E.R. Pacifics (the standard green streamliners) have started working regularly from Edinburgh into Glasgow. So any reader who has not yet met one of these fierce monsters and lives in the Glasgow area, has good reason to do some judicious "lineside loitering."

High Pressure

The AMATEUR WOODWORKER



SOME time ago we published in these pages, details for making a practical sewing companion for a lady, and it was so popular than the design went out of print very quickly. That was proof that it was worth making up, and evidently appealed to a very large number of readers.

We are sure, therefore, that a similar piece of work made from these instructions will be equally popular, and will appeal both to the fellow who wants to make something, and to any fortunate lady who receives the piece of work as a gift.

Although, of course, originally intended as a sewing companion, the type of stand illustrated

LADY'S SEWING COMPANION

can quite easily be converted into an ordinary side table with hinged lid to serve as a container for the odds and ends usually required in any room. It is suitable for odd books, papers, writing materials, smokers' requirements, etc. and is just the right height and size to be practical and yet not unsightly.

The work involved is of a carpentry nature, but it can all be effected with the usual fretwork tools because the wood is in no case thicker than $\frac{1}{4}$ in. The legs and cross rails are, of course, a different matter and they are of $\frac{3}{4}$ in. square stuff.

The whole design has been kept as plain as possible, and the parts are held together principally by dowels. These must be driven in carefully and correctly in order to ensure a perfectly rigid framework. The skeleton is shown in the detail herewith, and it can be seen how four rails 7 ins. from the bottom and four rails 7 ins. from the top form the main construction.

$\frac{1}{4}$ in. round dowels $\frac{3}{4}$ in. long are used to connect the parts after the legs have been cut off to the same length of 27 ins. The cross rails are 8 ins. long $\frac{3}{4}$ in. square, and here again must be cut correctly to ensure the whole framework being rigid. To stiffen the joints also, the metal angle fillets can be screwed on in the inside corners, as shown by the detail in the centre pages.

Patterns and Parts

All the various parts concerned are shown in the patterns on the centre pages, and it is a simple matter to mark them out on the various pieces of wood supplied in the parcel.

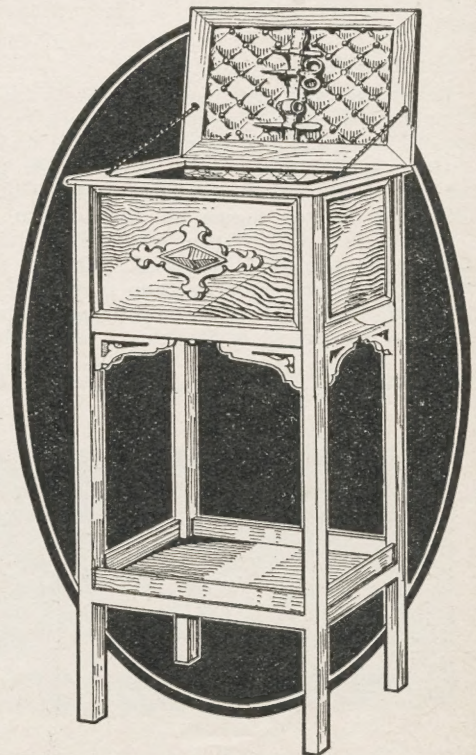
Having got the framework, we can add the four sides which form the box-like compartment.

On the top surface of the upper rail fit between the legs two pieces 12 ins. long and two pieces 7 ins. long. Their ends must be mitred to form a framework standing round the legs and rail. Bring them nearly flush with the front edge, and glue them firmly all round.

Add small headless nails also to provide greater strength, then cut out the four panels of mahogany faced plywood to form the back, front and sides of the box. Measure these up with the actual framework made so the panels stand behind. These side pieces are held in place with fillets of $\frac{1}{4}$ in. square wood placed along the rails and legs, as can be seen in the detail.

The top of the panels are covered by four pieces forming a flat frame. Two of them are 14 ins. long and two 10 ins. long—all in $\frac{1}{4}$ in. wood and 1 in. wide. The ends are cut at an angle of 45 degrees, and the outer edge is rounded to give a nicer surface.

These rails glued to the frame, to the panel piece and to the strip, form quite a solid top on



which the lid can rest. The lid itself is a plain piece of plywood 13½ins. by 9½ins. on the underside of which is fitted a hollow frame of two long and two short pieces. The former are 14½ins. and the latter 10½ins. long, all 1½ins. wide and ¼in. thick. Here again, the outer edge is rounded and the frame glued to the lid piece with an equal projection all round. It is hinged in two places on the back edge, and a chain fitted to prevent it from falling outwards.

MATERIALS SUPPLIED

Fretwood—

For making this Stand we supply a parcel of selected mahogany with sufficient fancy moulding and strips for edging, for 8/6 or post free 9/4.

Fittings—

A pair of 1in. Brass Hinges, eight No. 101 Angle plates, 12ins. of chain and four brass eyes for 1/4 per set, 1/6 post free.

A complete parcel of wood, moulding and fittings will be sent post paid 10/6.

The floor is 3/16in. thick plywood, 12ins. long and 8ins. wide, and rests on four fillet strips ¾in. by ¼in. glued on the inside of the upper rails. Mitre the fillets at the corners or butt them up firmly and cut the floor so it rests comfortably on these pieces. The position is seen in the detail with the others.

A certain amount of ornamental work has to be added, for which necessary full size patterns are shown in solid black. An overlay on the front is cut from ½in. wood, and on the face of this again is placed one of the handsome ornaments supplied already to fit. This ornament is not glued direct to the overlay, but to a diamond shaped piece the size of which is shown by dotted lines on the pattern.

Corner Brackets

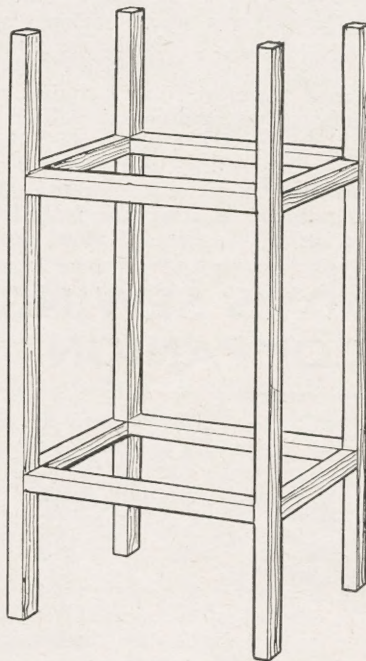
Below the rails, eight corner brackets are fixed. They are cut from ½in. wood set back centrally across the leg and extend inwards on the underside of the rail. Cut them to a true rightangle, glue in position, then add if necessary a screw through the front end as shown on the pattern sheet.

A tray is fitted to the lower rails, and here again a floor piece is required. This is 12½ins. long, 8½ins. thick and cut from mahogany faced plywood. Small indentations have to be cut from the corners so it fits snugly round the leg.

These corner pieces are ¾in. across, and if the tray is pressed home firmly the part helps to hold the whole thing rigid.

Round the edging of the tray or floor are upright edging strips to cover the plywood parts. These edging strips are ¾in. wide in ½in. wood, two being 12ins. long and two 8ins. long. Cut them to fit tightly between the legs and shape of the upper edge before gluing to the angle of the floor and the rail. A detail of this is also shown with the other patterns.

As the wood is all mahogany it can be stained, then treated with Hobbies Lightning Polish to



The general framework of legs and rails

bring up a very fine surface. This should be done, of course, before the overlay is put on the front, to make the operation more simple. The interior of the box, too, is lined with wadding then fitted up with a covering of coloured material in the proper way for a sewing companion.



The "Queen Mary"

HERE is another picture of our model of the "Queen Mary" made from Design No. 198 Special. With it is the proud owner and builder, Philip W. Cox of Chesterfield, who has made quite a number of our various ship models. He has completed the Nelson, Hermes, Victory and Golden Hind which make an excellent and attractive range of ships through the ages. The model "Queen Mary" had the honour of being on show in one of the leading shops in Chesterfield and came in for much admiration.



WE have often heard it said that photography is easy, that it is only a matter of pressing a button when the sun is shining and you will get a result. Well, up to a point, that is perfectly true. You will get a result, but it is doubtful whether you will be able to call it a picture. Then again pressing a button is no more photography than carrying a golf club is playing golf.

There is a lot to learn in every hobby and the camera is by no means an exception. Some of our polytechnics have classes for photography which are very well attended and it is surprising the number of different branches of the subject which are included in the curriculum. They range from Optics to Chemistry and Art, so it follows that to become a real keen and successful amateur there is much to be learned.

One of the greatest difficulties for the beginner is the important matter of exposure. It is generally recognised as the stumbling block for most folks but as with most other things there is what is known as 'beginner's luck.' A man will go out with a camera for the first time, expose

a spool of eight exposures, take the film to a chemist and in a day or two show you, with a boastful look on his face, how he has succeeded in getting eight jolly good pictures on his very first trial. Yes, we have met these people but what about the second spool when the day was not quite so bright and the subjects were not open scenes on the beach or hillside?

Exposure is a subject which is always dependent

THE MATTER OF EXPOSURE

upon one or more factors. The actinic value of the light varies almost every hour of the day; the subject you wish to take may reflect much or little light, the film you are using can be very fast or, of a moderately slow speed and further, your lens may be fitted with a long series of stops from 4.5 to F32, or it may be of a cheaper variety with even only two stops a large one for 'dull' and a smaller one for 'sunny' times.

What to Consider

These are the factors which have to be considered when you are trying to calculate the correct exposure to give for that particular view you wish to secure.

Now how is this to be done? It looks a pretty formidable task, but a little care is the principle ingredient. We have already given you a little instruction (in our issue of April 24th) when we told you the value and the meaning of the stops, how each was half the diameter of the one preceding it and therefore took twice the time for the rays to pass through it. If you have really got this idea, then you have mastered one of the chief items to be used in the calculations.

Methods of Judging

This is given only for the purpose of trying to illustrate the value of light at different times during the hours of daylight, for it is only a very rough approximation of the comparative values. Taking a day in the middle of June, bright sun shines from early morning till late evening and a cloudless sky, between the hours of 10 and 2 o'clock we will call the value 1. Between 9 and 10 and 2 and 3 it will be $1\frac{1}{2}$, and 8 and 9 or 3 and 4 will be 2. You can see from this how easy it is to over or under-expose if you are not watching the light.

In the same way as it is necessary to consider

OUR PHOTOGRAPHIC PICTURE FEATURE

A VERY COMMON MISTAKE OFTEN MADE BY EVEN QUITE ADVANCED WORKERS IS TO TAKE TOO LITERALLY THAT A PHOTOGRAPHER (WHEN TAKING A PICTURE) MUST HAVE THE

SUN BEHIND HIM, FOR IF IT IS ABSOLUTELY TO THE REAR AS FIG 1. THE RESULT WILL BE FLAT NO MATTER

FIG 1. THE RESULT WILL BE FLAT NO MATTER

FIG 2. THE RESULT WILL BE FLAT NO MATTER

FIG 3. THE RESULT WILL BE FLAT NO MATTER

FIG 4. THE RESULT WILL BE FLAT NO MATTER

FIG 5. THE RESULT WILL BE FLAT NO MATTER

HOW PERFECT THE NEGATIVE OR HOW WELL PRINTED.

THE CORRECT ANGLE FOR THE LIGHT IS AS FIG 2, TO THE REAR & TO ONE SIDE, AS THIS HAS "THE EFFECT OF PRODUCING A SHADE DOWN THE FAR SIDE OF ALL ITEMS WHICH GIVES "GOOD MODELLING" & MAKES THINGS STAND OUT WITH A SUGGESTION OF RELIEF. FIGS 3 AND 4 SHOW HOW RAISED LETTERS WOULD LOOK WITH "DEAD" AND "SIDE" LIGHTING.

the light, as it is also to examine the subject, for if it is full of heavy dark masses it will not be reflecting as much as if it was the white washed walls of a Devonshire cottage with the sun shining full on it. Open spaces require much less than heavy foreground subjects and open seascapes less than an open landscape.

Film Speeds

Then we come to the question of the speed of the film. Well now, this is not a difficulty; and if you are wise you will at first stick to one of the best known makes and use only the one make during the season. It is most unwise to shift from one to another until you have thoroughly mastered the one and have, to a certain extent, got familiar with the amount of exposure which that type of film requires. Then, and then only, will you be right in making a change or testing a different brand.

In briefly considering these details, which are incident to exposure, we are really pointing out the necessity for care and thought just at the time of your exposure. There are more pictures wasted, or perhaps it would be better to say there are more failures made, as a result of rushing the work at this juncture than the majority of amateurs imagine.

Exposure Apparatus

The careful worker will not trust his own judgment on this question, he knows the pitfalls and in consequence takes the precaution to always carry an exposure meter in his pocket or bag and so do the majority of our press and commercial photographers.

There are several varieties of sensitometers or exposure meters, and those who have been fortunate to be able to purchase one of these, generally speak extremely well about their achievements. Another type, and one that was very popular

indeed 20 years ago, has a strip of sensitised paper which responds to the action of the light and the time taken for it to discolour is used as the principal factor for calculating the time of exposure for any given plate or film for which the speed is known.

Then we have the Disc or Sliding Scale class of meter. With these, very accurately thought out sets of figures are included representing the speeds of films, the time of day and month, the subject and the stops of the lens. These figures are, by means of the disc or slide, brought together and the exposure required for the particular subject is shown against the stop it is proposed to use. The best known example of this class is unquestionably that found in the back of Burroughs Wellcome Diary, which is sold at 1/6.

A Visual Exposure Meter

Then there is still another type, it is for visual examination of the object you are proposing to photograph. The one we refer to here is made of celluloid or similar material with a printed set of stops and figures on its outside. It is slotted through the centre and, on holding it near the eye and looking through the slot, figures from 1 to 8 are to be seen and the calculating factor is the figure that is first discernible. They are quite good and very reasonable in price (5/-) and what is of very great convenience, they will drop into your vest pocket.

We have dwelt at some length on the question of exposure meters because we want to feel that we have put you on the right track on this all-important question of exposure. We do not wish anyone to think that they cannot do any more photography unless they buy a meter or study everything connected with exposure; what we have done is to give you information the use of which will help you to increase your percentage of good results.

(To be continued)

JUNE PHOTOGRAPHIC COMPETITION

Subject—"In the Country"



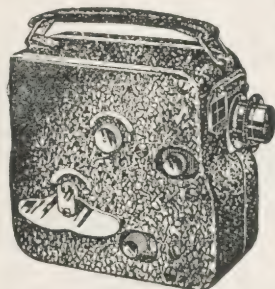
EVERYONE goes into the country these sunny days. Take your camera with you and get a picture for this competition. A farmyard—a distant view, a trickling stream and dozens of other delightful snaps are possible and simple. Pictures will be judged on merit and prizes awarded as mentioned below. Let's have a big entry for the first Competition of the season.

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In the Open Section a 1st Prize of A Guinea Swan Fountain Pen and a 2nd Prize of 10/- . In the Junior Section (those under 16) the 1st Prize is a Fountain Pen value 10/- and the 2nd Prize 7/6. Each print must bear the competitor's full name and address, and his age, if under 16 years. Entries should be addressed Amateur Photographic Competition, Hobbies

Weekly, Dereham, Norfolk, and must arrive not later than June 30th. The Editor reserves the right to publish any entries he wishes in Hobbies Weekly. No competitor to take more than one prize during the season. If a stamped addressed envelope is sent with the entries every endeavour will be made to return them, except the prize-winning ones.

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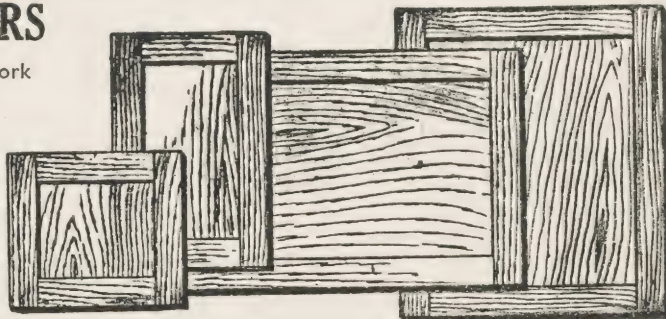
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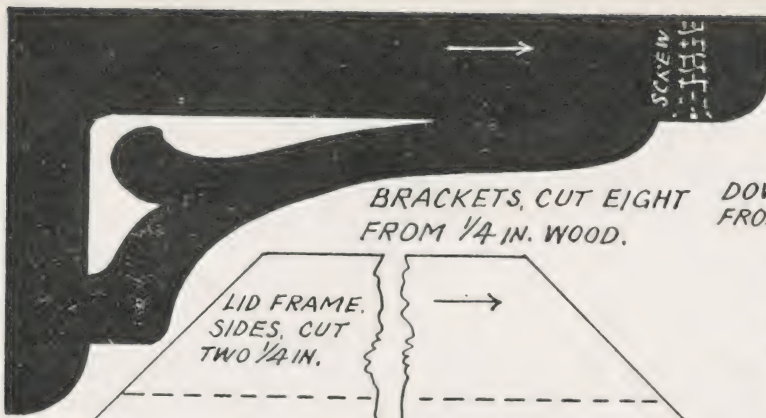
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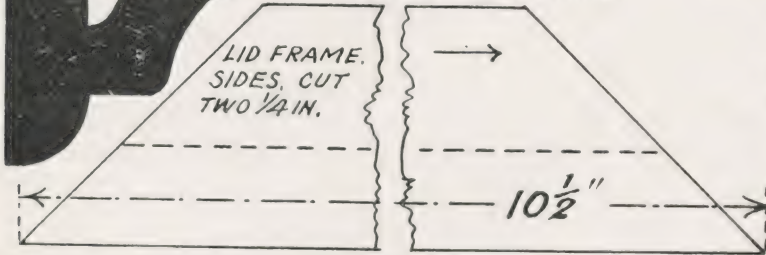
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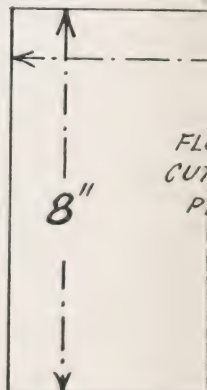
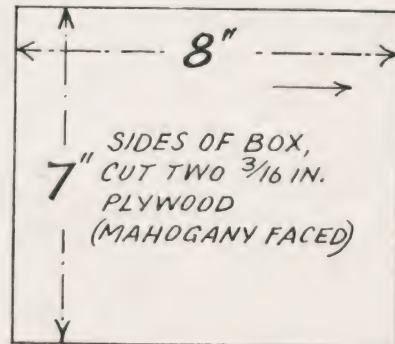
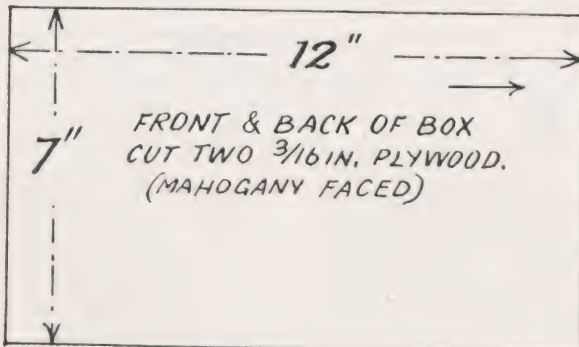
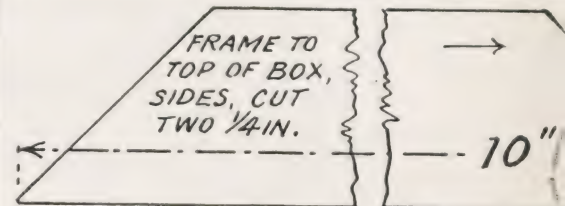
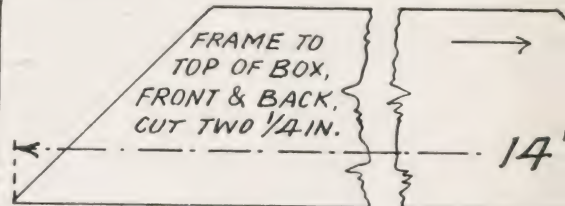
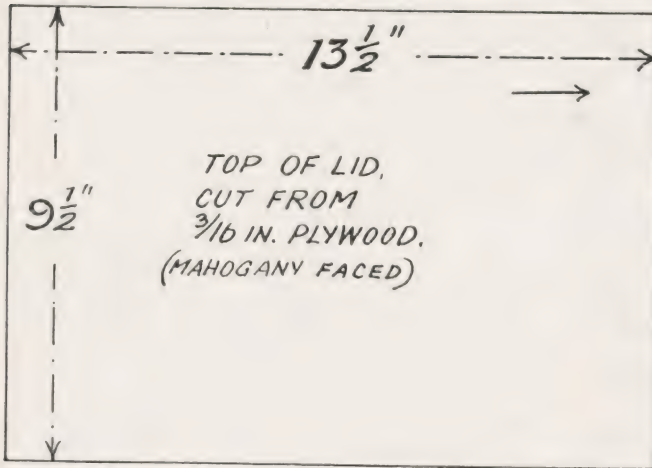
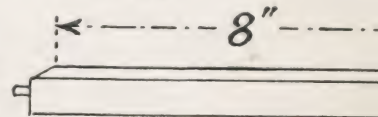
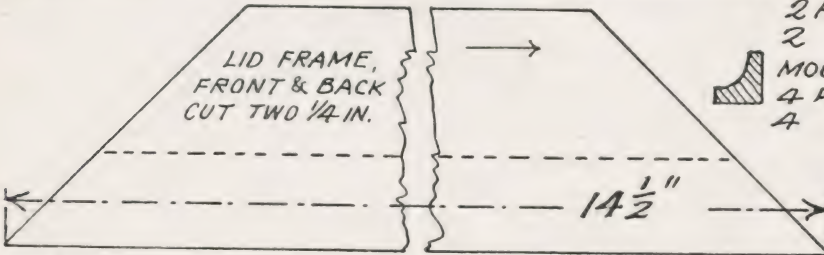
THE ARROWS POINT THE WAY OF THE GRAIN OF WOOD.

1/4 IN. BY 1/4 IN. STRIPWOOD
4 PIECES 12 INS. LONG
4 " 8 INS. "

BRACKETS, CUT EIGHT FROM 1/4 IN. WOOD.
DOWELS, CUT 16, 3/4 IN. LONG FROM 1/4 IN. ROUND ROD.



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Full instructions for
making this article
are given on page 271

OVERLAY ON FRONT
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SHOWING ANGLE
PLATES TO STIFFEN
THE JOINTS

PLYWOOD TOP

LID
FRAME

$\frac{1}{4}$ " \times $\frac{1}{4}$ "
STRIP.

DETAIL OF
TOP OF BOX

LEGS
 $\frac{3}{4}$ IN. SQ.

DOWELS

RAILS,
CUT FOUR
OF EACH
 $\frac{3}{4}$ IN.
SQUARE.

EDGING FOR TRAY,
CUT TWO $\frac{1}{4}$ IN.
MAHOGANY.

EDGING FOR TRAY
CUT TWO $\frac{1}{4}$ IN.
MAHOGANY.

FLOOR

STRIP

FLOOR
FILLET.

DETAIL OF FLOOR

12"

DOOR OF BOX
CUT ONE $\frac{3}{16}$ IN.
PLYWOOD.

FLOOR OF TRAY,
 $8\frac{3}{4}$ " CUT ONE $\frac{3}{16}$ IN.
PLYWOOD
(MAHOGANY FACED)

$\frac{3}{8}$ "

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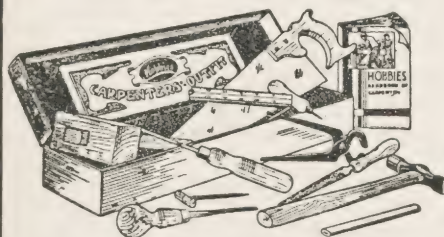
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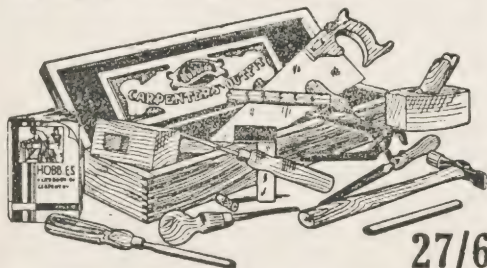
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Folding Rule, Gimlet, Bradawl, Carpenter's Pencil
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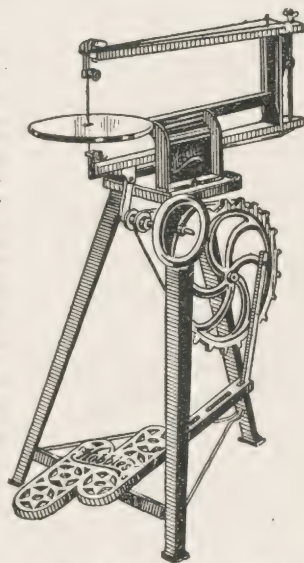
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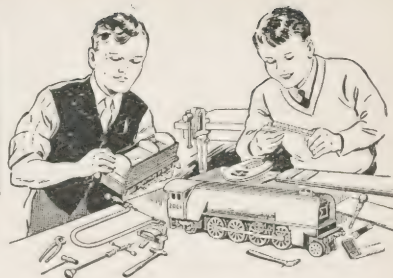
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PAINTING AND FINISHING MODELS



THERE are so many of our readers now who make a speciality of model construction from our designs, that a few notes on the method of finishing, and a few hints on the subject will probably be useful. We do not intend here to distinguish one design from another, but to treat the subject in a general way.

Many readers have written in, for instance, about finishing off the ships, whilst others want to know how to complete a doll's house and other similar models. There are, however, so many things in common for all types of model making, that the worker is well advised to note these hints carefully.

Patience and Paint

One of the first essentials of the model maker is, of course, patience, and he must realise, too, that when his model is cut and actually constructed it is only half finished. It is, indeed, more essential to have patience and take time over the painting and finishing, than it is over the constructional work.

For, after all, the actual paint and finish will be what is seen—how the parts are put together will be known only to the model maker himself.

Do not, therefore, be in a hurry, but make all the preparation you can and know exactly what you are going to do before you sit down to the job. In the case of old-time ships, for instance, you can glean quite a lot of knowledge from books on the subject. They are to be found in most libraries, and if the books cannot be borrowed, then you can easily read them in the library and make notes afterwards.

Helpful Books

In these books, too, will be found pictures of the various ships such as the "Royal Sovereign," "Golden Hind," clipper tea ships and so on. All these must be studied very carefully. Make a note of how the decorations are added to the sides and stern—whether there are many deck pieces, and essentially how the rigging is arranged.

One of the troubles with old-time ships is that in many cases there is no authentic detail of the decoration on the sides. Old-time pictures vary according to the artist, and a good deal of latitude is allowed in finishing these.

Remember, too, it is impossible to give such a small model an accurate copy. There have been handed down, however, definite details of the guns, boats, etc., and if you can, it is advisable to get hold of a book called "English Warships in the Days of Sails," which gives particulars of the various types. It is only in a book of this kind that one can hope to obtain sufficient details to complete the model satisfactorily, for in it there will

be found illustrations and details of hulls, guns, riggings, etc., which will be very helpful.

We had a helpful article on the painting of ships of various periods covering this matter in our issue dated May 1st.

Colour Guides

So far as modern ships are concerned, there are always pictures available, and if you are making such boats as the "Queen Mary" or "Stirling Castle," the Company which owns these ships will only be too pleased to let you have pictures in colour on leaflets if you write and tell them for what purpose they are required. The House flags, too, should be added and those with the Union Jack and any other signal flags can quite easily be cut out from paper glued round a pin and painted up the correct colours.

The lining of the deck and hull should be undertaken with enamel paints, and in the case of fine lines they can be drawn by applying the water colour to a pen and using it along a ruler in the ordinary way.

Hull Markings

To get the waterline on the side of the curved hull is usually a little difficult unless some preparation has been made. A good plan is to cut out a mask of paper and pin it to the hull with drawing pins below the actual line which has to be painted. The paint can then be applied over the hull up to and over this card without fear of marking the woodwork underneath it.

Then, of course, one requires a very steady hand for the little circles of portholes, the cabin windows and the deck rails. Continuous work at this will, indeed, make the hand unsteady and when you are getting tired, give it up until another night, rather than go ahead and make a bad job of it.

These modern boats are finished with a very bright enamel surface, and tins of Crusoe at 2½d. each offer an excellent preparation for use. Apply the enamel thinly, but do not get it so it streaks out. Use a camel hair brush such as one gets in a school paint box for the finer lines, and, of course, a pen as mentioned if water paint is concerned.

If you want a dull colour, surface poster paint should be used, for this is bright and colourful but provides a flat, matt surface.

Weatherbeaten Woodwork

On the other hand, the old-time ships have merely a weatherbeaten effect, and should not be

given a coat of bright paint at all. Brown umber or vandyke brown crystals, obtainable quite cheaply from the chemist, can be mixed to apply as a stain, or you can use Hobbies stains already to put on. The hulls themselves must not be too perfect in colouring, but the detail added to the stern and sides must be bright.

Gold paint is very frequently used, and in other periods blue and red were popular. It depended largely on the period of the ship as to the type of colouring and finish which was incorporated.

Passing to other types of models, we have the houses, inns, forts, etc., which are also quite popular, and here again a study of all pictures available should be made before commencing the work. Many housing estates now show you models of the residences they have for sale, and these and the leaflets offered form an excellent guide as to how similar designs in fretwood can be finished off.

Cellophane Windows

Windows, of course, should be glass wherever possible, but failing that the cellophane off chocolate or cigarettes can be used. A good plan is to paint curtains upon them where they would be in the real houses, then to get a reflection effect by slight diagonal lines drawn partly across from the top righthand corner.

The actual type of house will rule the finish. If it is a Tudor type it will have the half-timbered effected with strips of wood in the upper portion or gables. In this instance they are painted quite a striking colour from the rest of the house, and brown umber again can be used. Apply this carefully so as not to overrun the main surface of the house which should be finished in biscuit colour or even white.

Brickwork and Stonework

Brickwork, tile work and even roughcast finishes are all procurable now as a paper from Hobbies, and can be pasted on to the walls of the model. Do not, however, put these on until you are sure they fit round the windows, doors, etc., and whether you can carry them right round corners. Never make a join of two pieces at a corner. Carry one round about $\frac{1}{4}$ in. then bring the other one up to overlap slightly and make the join as little noticeable as possible.

Paper and Painting

Paper is now obtainable with bricks in various sizes and it largely depends on the size of your house, which you require. You can easily ask for a sample of the paper to make sure, but on no account should you have a brick which looks too large in proportion to the actual work.

Doors should be painted whatever colour you wish—in green or brown paint, with windows of

the same shade if the house is a complete one. Bungalows or anything of that sort can be lighter, with cream or white finish or even a light blue, if they are supposed to be seaside residences.

Do not leave the model standing in the air, as it were, but have it on a large base where you can put an appropriate and realistic surround to it. The base should be large enough to contain a garden and the outer edge lined in with fencing. This fencing can be made with stripwood either as a solid fence or with post and hanging chains. A fancy gate can also be built, then the interior of the garden and paths laid out.

Grass and Shrubs

Imitation grass can be bought, or the base painted green to represent it. Paths are of fine sand sprinkled on liquid glue, whilst shrubs and small ornamental bushes can be made from small pieces of sponge or loofah glued to a stick and fixed into the base.

Then, of course, you can obtain little pot plants the size required, to stand on a terrace or round a door, whilst if you wish to complete it entirely you can add a side garage and stand a toy motor car in it. It is this type of completion which will make all the difference to your model, and time spent on these details is well worth while.

Most of these models are of the waterline type, and should stand on a base representing the sea. They are much more realistic in this way than if they stand on a piece of plain or painted wood. The sea need not be too rough, but can be realistically "wavy" with a little splash close to the hull and particularly round the bow.

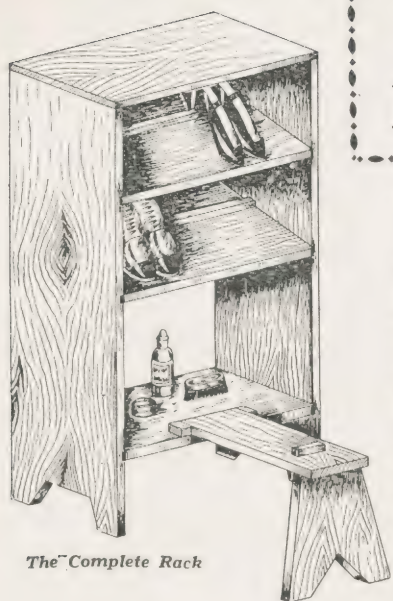
Suitable Sea

The sea itself can be made from plaster of Paris shaped up quite roughly and afterwards painted over the proper colouring. Remember that plaster of Paris sets very quickly, and use the liquid in a creamy state. It hardens in a very few moments, but do not attempt to run it on to the base too fast or you will get a lot of air bubbles.

In mixing, use slightly warm water and stir all the while in the same direction with a piece of wood. Spread the plaster on, and if you prefer, get it to a thicker consistency and apply with a knife.

In the place of plaster of Paris you could use plasticine or even modelling wax or putty. In any case, wait until the surface has settled down and hardened before attempting to paint it, then get the streaky effect of the sea, with a little splash of white foaming the edges of the waves, rather than a dead flat monotonous surface. A good plan is to try this out first on an experimental piece, or if you are not sufficient of an artist to complete it yourself, get some friend who is a draughtsman to do it for you.

Large Free Design Sheet for a Special Fretwork Clock next week!



The Complete Rack

A NOVEL SHOE RACK & CLEANER

THE shoe rack illustrated, also provides a means for a foot rest when cleaning, and this rest is allowed to fold back into the lower part of the rack when not in use.

To make the rack, commence on the sides which are indicated in Fig. 1, cut from wood 1in. thick. The board is 46½ins. long by 11ins. wide with an opening in the bottom to form feet. This is made 7ins. wide tapering up to 5ins. wide, a distance of 3ins. from the edge as shown in the detail.

Measure 11ins. up from the bottom and cut a slot across the wood 1in. wide by ½in. deep. Then measure a distance of 9ins. from the top on the front edge, and 6ins. from the top on the back edge, and cut a slot across the wood ¾in. wide by ½in. deep.

Take 9ins. down on both front and back edges from this slot and cut a second slot across the wood ¾in. wide by ½in. deep as indicated. One side of each piece is cut out in this manner, care being taken to get the slots quite true on each piece.

The rack shelves are the next items to get along with and these are indicated in Fig. 2. The two shelves for the shoes are indicated at A, and these are made in wood ¾in. thick. Cut the wood 21ins. long by 11½ins. wide and fix a piece of ¾in. by ½in. stripwood on each shelf a distance of 4ins. from the back edge as shown. These strips allow the heel of the shoe to rest on when placed in the rack and so

holds them in position loosely and without trouble.

The bottom shelf which holds the cleaning outfit and the foot rest is indicated at B, is made in wood 1in. thick, 21ins. long by 11ins. wide. A piece of 1½in. by 1in. stripwood is cut 8ins. long, and the centre is half lapped for 6ins. as indicated at C to form part of the foot rest which is supported by two small hinges in the position indicated in B.

The foot rest itself is indicated in Fig. 3, is made in wood 1in. thick and is cut 14½ins. long by 6ins. wide. Half lap one end a distance of 1½ins. as shown, to fit into C Fig. 2. Cut off a piece of ¾in. by ¾in. stripwood 3ins. long, and fix this on top of the rest in the centre 3ins. from the front edge as shown.

The leg for the rest is indicated in Fig. 4, and this is made in wood 1in. thick. First cut the wood to size 12ins. by 11ins., and then taper the sides to

CUTTING LIST

- 2 pieces 46½ins. long by 11ins. wide by 1in. thick.
- 2 pieces 21ins. long by 11½ins. wide by ¾in. thick.
- 1 piece 21ins. long by 11ins. wide by 1in. thick.
- 1 piece 14½ins. long by 6ins. wide by 1in. thick.
- 1 piece 12ins. long by 11ins. wide by 1in. thick.
- 1 piece 22ins. long by 11ins. wide by ½in. thick.
- 2 pieces of ¾in. by ½in. stripwood 20ins. long.
- 1 piece of 1½in. by 1in. stripwood 8ins. long.
- 1 piece of ¾in. by ¾in. stripwood 3ins. long.

6ins. wide at the top as shown. Mark off 2½ins. from the sides at the bottom and cut out the piece up to 4ins. on the centre as indicated.

Having cut the leg out fix it on the under side of the foot rest a distance of 2ins. from the end, and then hinge the whole in position on the front of the bottom shelf.

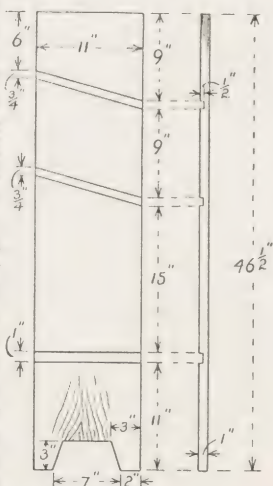


Fig. 1—Details of sides

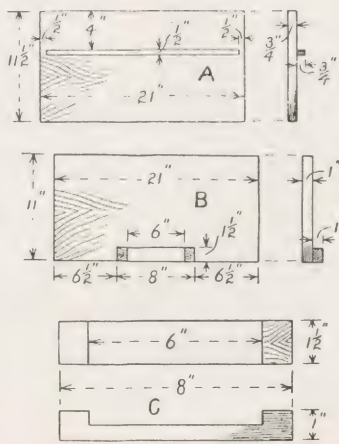


Fig. 2—The various shelves

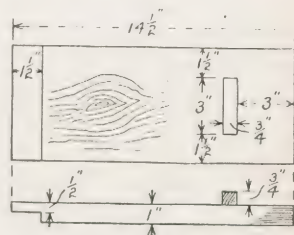


Fig. 3—The hinged shoe stand

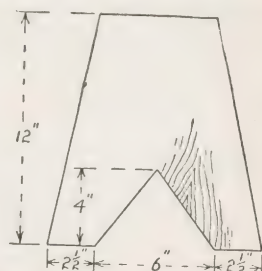


Fig. 4—The shoe stand support

A TOY MODEL TIP LORRY

HERE is a wonderfully realistic little toy Lorry which will give lots of fun to the youngsters. It is built strongly and will bear all the rough usage to which it will be put. The overall length of the toy is $12\frac{3}{4}$ ins., its width $4\frac{1}{2}$ ins., and its height 5 ins. and it is fitted with a device for raising the waggon so that its contents may be tipped out just as the little illustration shows. The large illustration gives a splendid idea of the finished lorry which should be painted up in bright colours.

The wheels intended for the lorry are Hobbies No. 604, $1\frac{1}{2}$ in. diameter, and sold at 4d. the set of four. Suitable screws and washers are also obtainable at 3d. the set consisting of four round-headed screws and eight washers.

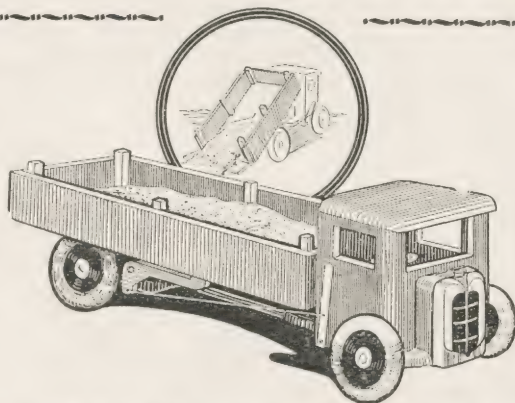
The Chassis

The first piece to set out and cut will be the chassis (A, in Fig. 1) and it may here be said that the fretsaw will be used for all the cutting and the shaping to parts.

The actual outline of the chassis is given in Fig. 2, and the squares shown over the outline will be $\frac{1}{2}$ in. sided. It should be an easy matter to follow the squares and so get an accurate outline for the chassis and the two levers which are included inside the squares. The chassis is cut from $\frac{3}{8}$ in. thick wood, and the two levers from $\frac{1}{4}$ in. Pieces B are 6 ins. by 1 in. by $\frac{3}{8}$ in., and are glued on A in the positions shown by the dotted lines. Pieces C are also glued on here, and they measure $\frac{1}{2}$ in. square by $\frac{1}{4}$ in. thick. The pivot pieces (K) are $\frac{3}{8}$ in. by $\frac{3}{8}$ in. by $\frac{1}{4}$ in. and they each have an $\frac{1}{8}$ in. hole to take the working bar on which are fixed the levers I, and M, see Fig. 3.

Radiator and Cab

The radiator front (D), measuring $2\frac{1}{2}$ ins. by $1\frac{1}{4}$ ins. by $\frac{3}{8}$ in. has its top corners rounded off and is glued and nailed to the front of the chassis.



The cab is made up from parts E, F, G, H, I and J and the dimensions of each of these parts are given in the cutting list at the end of this article. Each piece must be carefully set out with the square and cut round and glued and nailed up as the diagram Fig. 4 shows. It should exactly fit down between pieces B and D and be glued to the chassis.

The wagon, or tip truck has a floor (N) measuring 9 ins. by 4 ins. by $\frac{1}{4}$ in. and to this is glued the two sides (O) and one end (P) with the $\frac{1}{4}$ in. square posts put inside for sake of strength.

The tail board P at the back is made to hinge so it falls. Two small brass hinges can be pinned on, or pieces of stout tape glued to each part will serve the purpose of hinges. A pair of small hooks and eyes will keep it in position when closed up.

Turning Apparatus

The whole wagon when completed will be pivoted to the chassis by means of two small projecting lugs fixed underneath which go in between the pieces C.C. on the chassis. The projecting lugs measure 1 in. by $\frac{1}{2}$ in. by $\frac{1}{4}$ in. and they will be

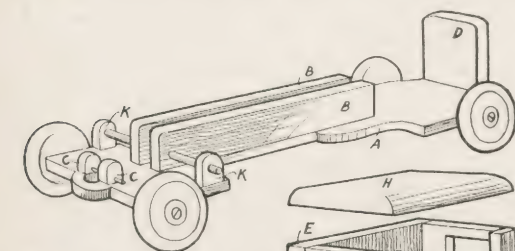


Fig. 1—The under carriage

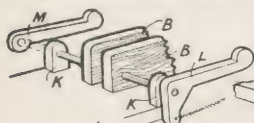


Fig. 3—The tip action

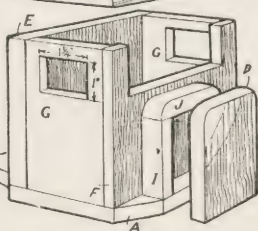


Fig. 4—The cabin parts

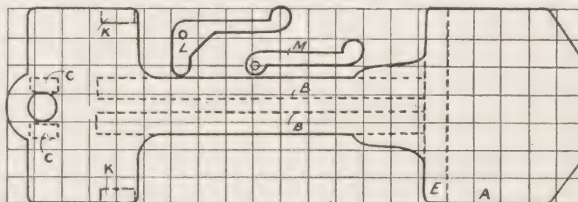


Fig. 2—Plan of the chassis in $\frac{1}{2}$ in. squares

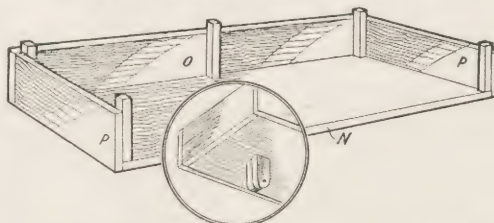


Fig. 5—The wagon and underside detail

glued together and glasspapered smooth to exactly fit C.C., but at the same time allowed to move freely between them. A short piece of stout wire will form the pivot.

The position of these pieces is shown in the small diagram in Fig. 5. The wheels will be screwed direct to the chassis, the rear pair having their screws put $\frac{1}{4}$ in. in from the back edge, while the screws of the front pair come gins. from those of the rear pair.

Painting the Model

The painting of the toy can now be taken in hand, and we suggest red for the wagon, buff for the cab and the inside of the wagon, with blue-grey for the roof and the levers at the sides. The sides of the radiator should be red, and the front coated with aluminium paint.

The wheels need no painting up as they are already coloured and varnished when bought. A steering wheel and pillar can be made and fitted for inside the cab.

The working parts of the wagon consist of a lever cut from a strip of stout brass about $2\frac{1}{2}$ ins. long and holed in two places as shown, the end hole

being for the round-headed screw which holds the lever to the chassis, and the other hole for the wire which connects up with the hole in the lever.

When the brass lever is drawn forward it automatically brings the other lever upwards and so tilts the wagon clear of the wheels.

The list of parts with their sizes will be found useful when draughting out and assembling.

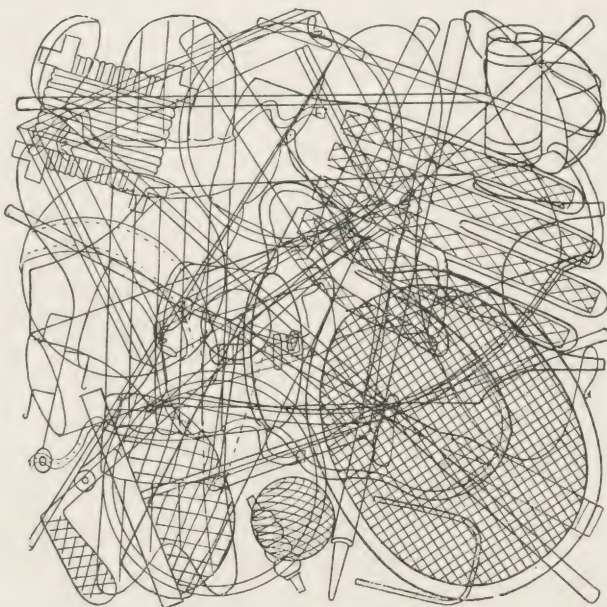
CUTTING LIST

Part A cut one piece, $10\frac{1}{2}$ ins. by $3\frac{1}{2}$ ins. by $\frac{3}{16}$ in.
 „ B cut two pieces, 6 ins. by 1 in. by $\frac{1}{16}$ in.
 „ C cut two pieces, $\frac{1}{2}$ in. by $\frac{1}{2}$ in. by $\frac{1}{16}$ in.
 „ D cut one piece, 2 ins. by $1\frac{1}{2}$ ins. by $\frac{1}{16}$ in.
 „ E cut one piece, 3 ins. by $3\frac{1}{2}$ ins. by $\frac{1}{16}$ in.
 „ F cut one piece, $3\frac{1}{2}$ ins. by $3\frac{1}{2}$ ins. by $\frac{1}{16}$ in.
 „ G cut two pieces, $3\frac{1}{2}$ ins. by $1\frac{1}{2}$ ins. by $\frac{1}{16}$ in.
 „ H cut one piece, 3 ins. by $2\frac{1}{2}$ ins. by $\frac{1}{16}$ in.
 „ I cut two pieces, $1\frac{1}{2}$ ins. by $\frac{1}{2}$ in. by $\frac{1}{16}$ in.
 „ J cut one piece, $1\frac{1}{2}$ ins. by $\frac{1}{2}$ in. by $\frac{1}{16}$ in.
 „ K cut two pieces, $\frac{1}{2}$ in. by $\frac{1}{2}$ in. by $\frac{1}{16}$ in.
 „ L cut one piece, 2 ins. by $\frac{1}{2}$ in. by $\frac{1}{16}$ in.
 „ M cut one piece, 2 ins. by $\frac{1}{2}$ in. by $\frac{1}{16}$ in.
 „ N cut one piece, 9 ins. by 4 ins. by $\frac{1}{16}$ in.
 „ O cut two pieces $9\frac{1}{2}$ ins. by $1\frac{1}{2}$ ins. by $\frac{1}{16}$ in.
 „ P cut two pieces, 4 ins. by $1\frac{1}{2}$ ins. by $\frac{1}{16}$ in.

Prizes ! Prizes !! Prizes !!!

A New Maze Competition

Here's another of those popular Outline contests, and a chance to win a valuable prize. Just see how many articles you can see in outline in the Maze and write their names out as mentioned in the rules below. All relate to summer sports and games. An equal chance for all and no entrance fee. Everyone should enter. Many Consolation Prizes.



Gem Fretmachine Guinea Swan Pen Hobbies for a Year and many others

Rules

Write out the names of all the articles you can find and put the total number at the bottom. Add your name and address and age if under 16. Entries must be written in ink and posted in a sealed envelope (with 1d. stamp on the outside) addressed to Maze Competition, Hobbies Weekly, Dereham, Norfolk. All entries must be received by June 26th. There can be no correspondence about the contest, but names of winners will be announced in Hobbies Weekly in due course. In the event of more than one correct entry, the prizes will be awarded the neatest or most original. The Editor's decision must be accepted as final.

Overseas For Overseas readers there is a special Section prize of a Fountain Pen value 10/6 and consolation prizes. Entries must be received by October 2nd. and addressed: Overseas Maze Competition, Hobbies Weekly, Dereham, Norfolk, England.

SOME TRELLIS SUGGESTIONS

NOTHING looks better for partitions for privacy in gardens, etc. than neatly designed either wrot or rustic trellising. On the other hand nothing looks worse than this kind of partition for gardens, etc. when in a bad state of repair. Once let the trellising laths start going the wrong way there is no piece of externally fixed joinery which depreciates as fast and nothing can stop it.

Trellis work can be said to be a combination of joinery and carpentry. The joinery in the making of mortised and tenoned framework whilst the carpentry is in the fixing. It is needless almost to remark that all the framing should be made and finished off in the shed ready for fixing on the job.

Now the life of trellis work depends on three factors—first, sound material—secondly, preservation by means of paint or other wood preservatives and thirdly and not least important—proper and efficient construction in the framing up of the material, and it is worthy of notice that these pieces of trellis work are outside standardised work.

The Design

It rests with the carpenter and joiner to design the work and make it effective and pleasing. Red deal lends itself admirably for ordinary work as it takes paint well and can be easily framed together though in some cases oak has been used to advantage and certainly has a longer lease of life. The lattice laths in the rebates of the



Solid head with capping



Top rail of door

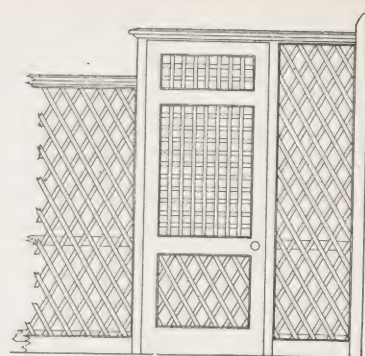


A-shaped top



Fancy top with double bead fixing

An all trellis pattern with stepped door



oak being secured together with copper nails where they cross and intercross, but in all this work use nails sparingly. Does not this apply to all first-class joinery work bearing in mind how little the old craftsmen used nails in their work?

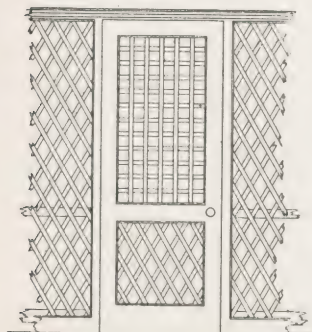
Paintwork

The design of the framing depends of 'course' on the intended situation of the Trellis work, but where possible it should be made in one piece and the laths then fixed in the rebates previously made in the rails, etc. One great factor is that the framework and the laths should be all painted before being fixed together not less than two coats, and the paint should not be put on merely as a kind of skin covering but well rubbed into the pores and fibres of the material.

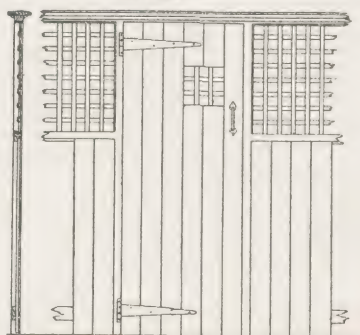
The failure of all painting can be traced to that cause. It is too often put on as a decorative covering rather than as a highly preservative one to protect the timber or iron as the case may be. All cornices and capping should receive two coats of paint before fixing. Now regarding the lattice pieces where they cross and recross, it is not necessary to nail everyone of them for they should be well secured in the rebates in the framing and as before said secures long life to the framing, is to use nails sparingly.

Removable

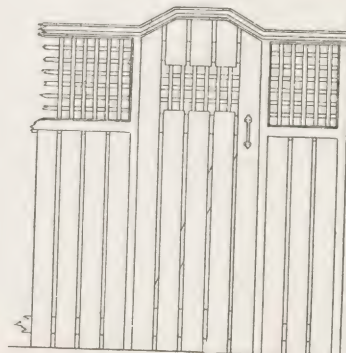
Another important point is that the trellis work should be fixed in such a manner that the whole can be readily removed. It is a good plan to fix the feet of the framing uprights into wood



An alternative design



Two types of boarded door with trellis tops



boxes let into the ground and insert the framing upright into same. These boxes should be covered with some kind of preservative material. The rebates are most important and care should be taken to have the laths well secured at the ends with beaded pieces. The nailing of the laths at the ends into the rebates must be very sparing. Not only does nailing as often as not split the ends of the laths but gives channels direct for any water which may accumulate on the members of the framing and it is a good plan to run hollows in the top rails also the underside of the sills, this

prevents any water clinging and it is carried away.

It is not necessary for trellis laths to be at an angle, though as often as not they are fixed at an angle of about 60 degrees. Placed on the level in the framing and horizontal and level in the door gives a contrast in the design. The illustrations give design and details often followed out in construction and as before remarked if nicely made and properly fixed there is nothing adds more to the beauty of the home gardens, but if not, the whole becomes an eyesore, not only to the maker but to all who see it.

A JAM DISH HOLDER IN WOOD

HERE is a useful little piece of work that would make an excellent present for a lady, or would sell quite easily. Made in the shape of a horseshoe, it takes one of those little round dishes that are procurable from any glassware stores. The jam spoon is then suspended overhead.

The model illustrated is for a dish having a diameter at the top edge of 5 inches.

Any larger size of dish would of course necessitate a slight increase in the span of the horseshoe. Light Oak in $\frac{1}{4}$ in. thickness is an excellent wood to use. Either clear varnish on a coat of light stain, or better still, stain and wax polish, would be a suitable finish.

A start should be made with the base and frame. These are cut from pieces $6\frac{1}{2}$ ins. square, and are identical except that the frame is cut away for the dish to stand in, and the base is cut for the four little pillars to be let in.

These pillars are cut from $\frac{3}{8}$ in. dowelling and are 1 in. long. The hole in the frame

will vary a little, to suit the particular dish chosen.

Be sure to cut it out on the small side, then temporarily fix the frame to the base, and try the dish in. If it does not reach to the base, the hole in the frame can easily be cut a little bigger.

A piece of wood 9 ins. by 7 ins. is required for the handle. The ruled design shows plainly how this is marked out. Slits are cut in both frame and base to accommodate it. It will be seen that the four little pillars are glued into holes cut in the base, but that the frame fits on top of them, and is held by a little screw in each.

Fig. 4 shows how the parts are assembled, and inset, how the little hook for the spoon to hang on is cut. This hook fits into the $\frac{1}{2}$ in. slit cut in the top of the horseshoe.

Four little turned feet complete the stand.

The cat can with advantage be omitted when staining up the other, and can then be finished off with a touch of black enamel or Ebonising solution.

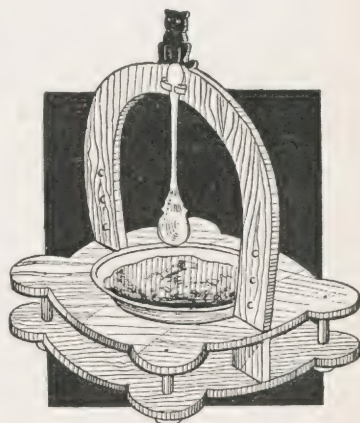


Fig. 1—The completed Dish Holder with its lucky cat on top

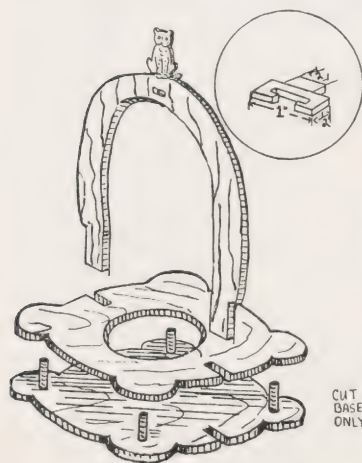


Fig. 4—Constructional details

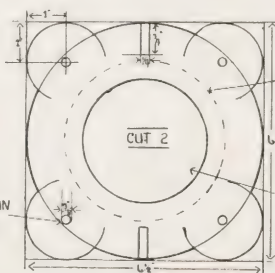


Fig. 2—The two frames

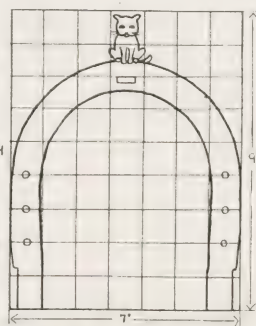


Fig. 3—The horseshoe pattern in 1 in. squares

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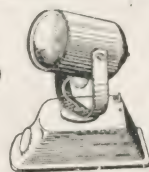
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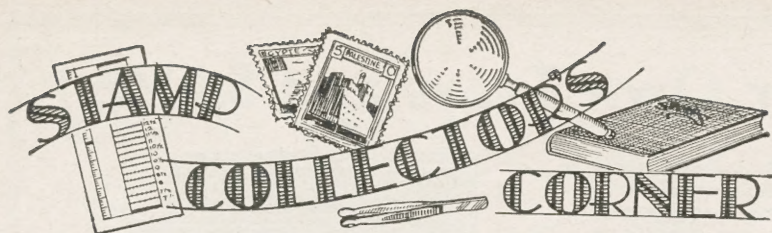


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STAMPS AND BOTANY

WHILE readers must have noticed that nearly all stamps which are issued have some reference to botany upon them, yet few of them have reached the height of the new British stamps for the reign of King George VI. Here there are no less than four different specimens to show—the rose, thistle, shamrock, and daffodil.

Of course, it is rather ridiculous to call them botanical specimens, because you would hardly use the representation on a stamp as the illustration for studying either a rose or a thistle, and there are very few cases where a stamp is of value for such a purpose. Even so, we have managed to find four such specimens for you to see this week.

The first of these is the 1927 issue from Egypt, one of the three stamps issued in connection with the International Cotton Congress. The three stamps are the 5 millimes, the 10, and the 15, and the colours are brown, red, and blue respectively.

It is a pity we do not have a few more stamps of this type, for countries producing a valuable commodity could then advertise it to the world. People living in the temperate countries, also, would by such means be taught something of the type of vegetation in the tropics or the frigid zones.

We in our turn could show the grower of such a substance as cotton what the factories or the machines are like. There is certainly the danger of some small country taking unto itself the credit for growing many products for which it should not take the credit; though the danger is or may be that of misleading us to the chief producer. Yet the interest to other countries should be sufficient to

merit the showing of these products.

It is therefore very fitting that cotton should appear on the stamps of Egypt, for it is from that country that we get the best raw cotton for our manufactures.

The quality of the cotton depends very largely on the length of the staple, that is, the length of each particular raw fibre, and the longest fibres are those which come from Egypt. There are also some which come from Sea Island—though not in sufficient quantities to supply our wants fully.

The stamp shows that part of the bush from which the important fibre is taken. Cotton is the white mass of fibres enveloping the seeds within the dry capsular fruit of the cotton plant.

THE next illustration is the 5 centavos of the 1930 Independence Centenary of Ecuador and shows the pod of the cacao tree. This tree is only found 20 degrees north or south of the Equator, and each tree only yields about two or three pounds of beans each year.

When about five years old the tree bears big pods either direct on the trunk or else direct on the main branches, and it is a curious sight to see a tree with these growing as they do. The pods are cut off, and each one (from six to ten inches long, and brightly coloured) furnishes about 25 to 40 beans. They are embedded in a soft pink pulp, and are scooped out of the pod, fermented and dried in the sun.

Next they are roasted and

crushed to nibs which, when ground, make the well-known beverage.

THE third illustration is from Haiti, the 1928 issue showing the branch of a coffee shrub. We are so used to going to the grocer and buying our coffee in the powder form, or in some cases even in bottles in the liquid form, that we are likely to lose sight of the fact that on the tree the coffee is a dark red cherry-like berry which contains two seeds in a mass of pulp.

As soon as the shrub is three years old, the flowers appear and the fruit takes seven months to ripen. It is picked, dried in the sun and the beans and the dried pulp separated. The beans should be roasted and ground just before use otherwise they lose flavour.

The fourth illustration shows the pepper plant. This is something which we in England can hardly be expected to know—except of course as the powder which we put into a pepper pot and sprinkle on eggs, etc.

The pepper shrubs are natives of the hottest parts of the world. The dried unripe fruit of a climbing variety of pepper plant, which is found particularly in the East Indies, constitutes black pepper, while if the same fruit is dried when ripe then it is known as the white pepper.

That very strong red variety which goes by the name of Cayenne pepper, is not truly a pepper at all.

The stamp illustrated is from the 1921 issue of Liberia. On the 1909 issue you will also find a picture of the pepper plant, while on the 50 cents of the 1923 issue you may find the pineapple plant with a beautiful reproduction of that fruit.



The Egyptian Cotton Plant



The Cacao Pod



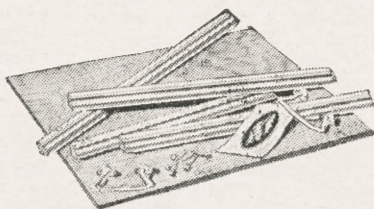
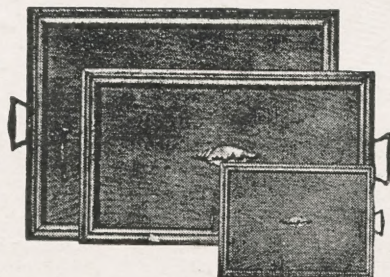
Coffee from Haiti



The Pepper Plant

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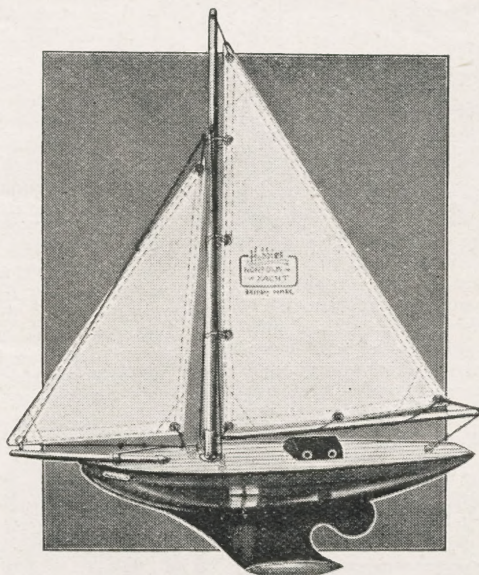
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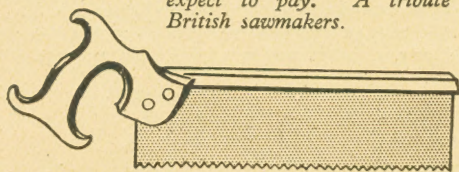
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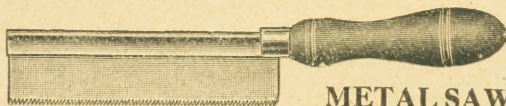
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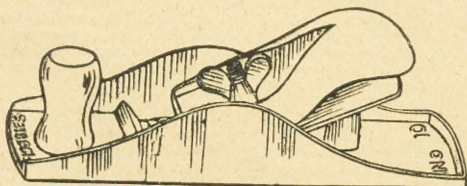
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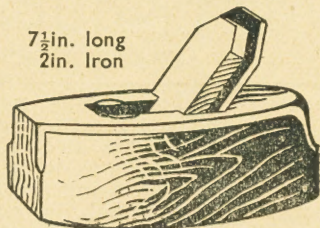


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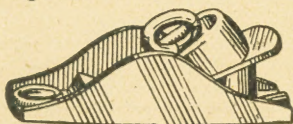
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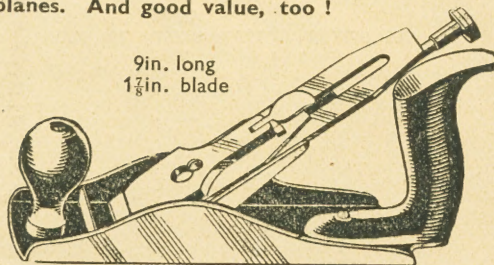


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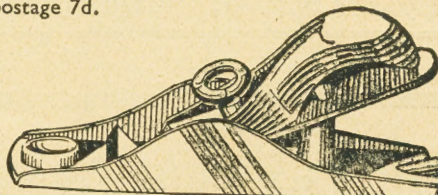
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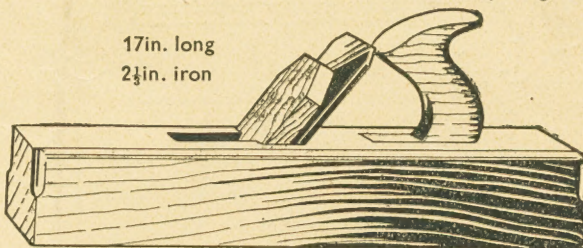
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